

-16

RAW SEQUENCE LISTING DATE: 10/29/2001  
 PATENT APPLICATION: US/09/900,751 TIME: 17:58:04

Input Set : A:\PTO.AMC.txt  
 Output Set: N:\CRF3\10292001\I900751.raw

4 <110> APPLICANT: Allen, Keith D  
 5 Leviten, Michael W.  
 7 <120> TITLE OF INVENTION: TRANSGENIC MICE CONTAINING SERINE  
 8 PROTEASE GENE DISRUPTIONS  
 10 <130> FILE REFERENCE: R-386  
 12 <140> CURRENT APPLICATION NUMBER: US 09/900,751  
 13 <141> CURRENT FILING DATE: 2001-07-06  
 15 <150> PRIOR APPLICATION NUMBER: US 60/217,449  
 16 <151> PRIOR FILING DATE: 2000-07-10  
 18 <150> PRIOR APPLICATION NUMBER: US 60/223,170  
 19 <151> PRIOR FILING DATE: 2000-08-07  
 21 <150> PRIOR APPLICATION NUMBER: US 60/223,460  
 22 <151> PRIOR FILING DATE: 2000-08-07  
 24 <160> NUMBER OF SEQ ID NOS: 4  
 26 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 28 <210> SEQ ID NO: 1  
 29 <211> LENGTH: 3106  
 30 <212> TYPE: DNA  
 31 <213> ORGANISM: Mus musculus  
 33 <400> SEQUENCE: 1  
 34 catggtagac ggctgccccgg agggaccacg cgtctgagac cggcgatcgg accgcacaaa 60  
 35 ccatggtag caatcggggc cgcaaggccg gagggggctc tcaggactc ggcgcgggac 120  
 36 tcaagtacaa ctcccgctca gagaacatga atggcttga ggagggtgtg gagttcctgc 180  
 37 ctgcgaacaa tgccaagaaa gtggagaagc gaggccccag ggcgtgggtg gtgcgtgg 240  
 38 cagtgcgtt cagttccctc ttgcctccccc tcatggctgg cttgcgtggg tggcacttcc 300  
 39 attatcgaa tgtgcgggtt caaaaagtct tcaatggcca tctgaggatc acaaatgaga 360  
 40 tctttctgga tgcgtatgag aactccaccc ccacagagtt tatcagcctg gccagccagg 420  
 41 tgaaggagggc gctgaagctg ctgtacaatg aagtccctgt cctgggtccc taccacaaga 480  
 42 agtcggctgt aactgcctc agtgaggggca gtgtcatcgc ctactactgg tcagagttca 540  
 43 gcatecccccc acacctggca gaagaggttg atcgcgccat ggctgtggag cgagttgtaa 600  
 44 cattgccacc ccgagcacgg gcactgaaat ctttcgtgct aacatctgtg gtggccttcc 660  
 45 ccattgaccc cagaatgtg cagaggactc aggacaacag ctgcagttt gccctgcatg 720  
 46 cccatgggtgc agcagtgaca cgcttcacta cccctggctt ccccaacagt ccctacccgg 780  
 47 cgcacatggcccg ctgcccgtgg gtcctgcggg gggacccga ctctgtgctg agcctcacct 840  
 48 tccgaagctt tggatgtcgct cccctgtatg agcatggcag tgacctggc accgtgtatg 900  
 49 atagcctgag ccccatggaa ccccacgtct tggatgtcgctt gtgtggcacc ttctcacct 960  
 50 cctacaacccct gactttccctc tcctcccaaga acgtcttcct tggatgtcgctg ataaccaata 1020  
 51 ctgaccggcg acatccctggc ttggaggcca ctttcttcca gtcgccccaa atgagcagct 1080  
 52 gtggcggctt ttggatgtgac accaaggga catttagcag cccctactat ccaggccact 1140  
 53 accccggccaa catcaactgc acatggaaata tcaagggtgcc caacaacccgg aacgtgaagg 1200  
 54 tggcgcttcaa actcttcata ctgggtggacc ccaacgtacc agtgggtccc tgccaccaagg 1260  
 55 actatgtggaa gatcaacggg gagaagtact gcggtgagag gtcccagtt gtggtgagca 1320  
 56 gcaacagcag caagattaca gtccacttcc attctgtatca ctgcgtacacg gacaccgggt 1380  
 57 tccttagctga gtacctctcc tacgactcca acgaccgtg cccagggatg ttcatgtgca 1440  
 58 agactggacg gtgcacccga aaggaactgc gtcgcacgg ctgggcacac tgcccggtt 1500  
 59 atagtgtatgaa gcttactgc cgatgcaatg ccaccacca gttcacgtgc aaaaaccagt 1560  
 60 tctgcaagcc cctttctgg gtctgtgaca gtgtcaacga ctgtggggac ggaagtgacg 1620

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/900,751

DATE: 10/29/2001  
TIME: 17:58:04

Input Set : A:\PTO.AMC.txt  
Output Set: N:\CRF3\10292001\I900751.raw

61 aggagggctg cagctgtcct gctggaggtt tcaagtgttc caatgggaag tgtctccctc 1680  
 62 agagccagaa gtgtaatggg aaggacaact gtggagatgg gtctgacgag gcttcatgtg 1740  
 63 acacgcgtgaa tgtcgctctc tgcaccaaatt atacctaccg ctgccaaat ggcctctgtc 1800  
 64 ttagcaaggg caaccctgag tgtgtatggg agacggactg tagcgatggc tccgatgaga 1860  
 65 aaaactgtga ctgtggctg cgatccttta ccaaacaggc tcgcgtggg ggtggcacga 1920  
 66 atgcggacga gggcgagtgg ccctggcagg tgagcctcca cgcgcggc cagggccact 1980  
 67 tgtgtggggc ctcgctcata ttcctgact ggctggctc tgagcgtcat tgcttcagg 2040  
 68 atgacaaaaaa tttcaagtttac tcaagactaca cgatgtggac ggccttcctg ggtctgctgg 2100  
 69 accagagcaa ggcgcgtgccc tctgggggtgc aggagctgaa gctcaaaacgt atcatcaccc 2160  
 70 acccttcctt caatgatttca accttcgact atgacatcgc cttgcgtggag ctggagaagt 2220  
 71 cggggagta cagcacccgcgtc gtgcgcggc tctgcgtgcc tgatgttacc catgtcttcc 2280  
 72 ctgctggcaa ggcgcattctgg gtcacaggct gggggcacac aaaagagggg ggtaccggag 2340  
 73 cgctgtatcct gcagaagggt gagatccgtg tcatcaacca gaccacctgt gaggaccta 2400  
 74 tgccgcagca gatcacccca cgaatgtatgt gtgtgggtt cctcagtggg ggtgtggact 2460  
 75 cctgcgcagggt tgactctggg gggcccttgc caagcgcggg gaaagatggg cgaatgttcc 2520  
 76 aggctgggtg ggtgagctgg ggtgaaggct ggcgcgtcagag gaacaagcca ggcgtgtaca 2580  
 77 caaggctccc tgttagttcgg gactggatca aagagcacac tggggatag cagcatggac 2640  
 78 agacagccga ccacaaacac ccacaggat gcccgcacatg cacacccgttacaggagag 2700  
 79 gaacactgac gacattttatg ctgtggcctc ccccccccaa cacaacccag actgtgaact 2760  
 80 gcatccttag gactcagat tcttccaaag tggggccccccc tcaagagttt gagagagaac 2820  
 81 ttgcgtgcta gcccgcgcgtc ctggggggcaa gggtttgcgtt ggcgccttcc ccctctagcc 2880  
 82 ctgagctggg tgaagatgtatgt gtgtgggg agagctgtt ccactgtca ttgagctccc 2940  
 83 gggagcccta tggggaggagg ggctcagggt cactctttc aggaagcgc ggccttagga 3000  
 84 accccagaaaa agagtggatc ctaaggctga aatttttttgcgttgcag ggggtggat 3060  
 85 ttgagagtaa aacattttat ttcttttaa aaaaaaaaaaaaaaaa 3106

87 <210> SEQ ID NO: 2

88 <211> LENGTH: 855

89 <212> TYPE: PRT

90 <213> ORGANISM: Mus musculus

92 <400> SEQUENCE: 2

93 Met Gly Ser Asn Arg Gly Arg Lys Ala Gly Gly Ser Gln Asp Phe  
 94 1 5 10 15  
 95 Gly Ala Gly Leu Lys Tyr Asn Ser Arg Leu Glu Asn Met Asn Gly Phe  
 96 20 25 30  
 97 Glu Glu Gly Val Glu Phe Leu Pro Ala Asn Asn Ala Lys Lys Val Glu  
 98 35 40 45  
 99 Lys Arg Gly Pro Arg Arg Trp Val Val Leu Val Ala Val Leu Phe Ser  
 100 50 55 60  
 101 Phe Leu Leu Leu Ser Leu Met Ala Gly Leu Leu Val Trp His Phe His  
 102 65 70 75 80  
 103 Tyr Arg Asn Val Arg Val Gln Lys Val Phe Asn Gly His Leu Arg Ile  
 104 85 90 95  
 105 Thr Asn Glu Ile Phe Leu Asp Ala Tyr Glu Asn Ser Thr Ser Thr Glu  
 106 100 105 110  
 107 Phe Ile Ser Leu Ala Ser Gln Val Lys Glu Ala Leu Lys Leu Leu Tyr  
 108 115 120 125  
 109 Asn Glu Val Pro Val Leu Gly Pro Tyr His Lys Lys Ser Ala Val Thr  
 110 130 135 140  
 111 Ala Phe Ser Glu Gly Ser Val Ile Ala Tyr Tyr Trp Ser Glu Phe Ser

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/900,751

DATE: 10/29/2001  
TIME: 17:58:04

Input Set : A:\PTO.AMC.txt  
Output Set: N:\CRF3\10292001\I900751.raw

112	145	150	155	160
113	Ile Pro Pro His Leu Ala Glu Glu Val Asp Arg Ala Met Ala Val Glu			
114	165	170	175	
115	Arg Val Val Thr Leu Pro Pro Arg Ala Arg Ala Leu Lys Ser Phe Val			
116	180	185	190	
117	Leu Thr Ser Val Val Ala Phe Pro Ile Asp Pro Arg Met Leu Gln Arg			
118	195	200	205	
119	Thr Gln Asp Asn Ser Cys Ser Phe Ala Leu His Ala His Gly Ala Ala			
120	210	215	220	
121	Val Thr Arg Phe Thr Thr Pro Gly Phe Pro Asn Ser Pro Tyr Pro Ala			
122	225	230	235	240
123	His Ala Arg Cys Gln Trp Val Leu Arg Gly Asp Ala Asp Ser Val Leu			
124	245	250	255	
125	Ser Leu Thr Phe Arg Ser Phe Asp Val Ala Pro Cys Asp Glu His Gly			
126	260	265	270	
127	Ser Asp Leu Val Thr Val Tyr Asp Ser Leu Ser Pro Met Glu Pro His			
128	275	280	285	
129	Ala Val Val Arg Leu Cys Gly Thr Phe Ser Pro Ser Tyr Asn Leu Thr			
130	290	295	300	
131	Phe Leu Ser Ser Gln Asn Val Phe Leu Val Thr Leu Ile Thr Asn Thr			
132	305	310	315	320
133	Asp Arg Arg His Pro Gly Phe Glu Ala Thr Phe Phe Gln Leu Pro Lys			
134	325	330	335	
135	Met Ser Ser Cys Gly Gly Phe Leu Ser Asp Thr Gln Gly Thr Phe Ser			
136	340	345	350	
137	Ser Pro Tyr Tyr Pro Gly His Tyr Pro Pro Asn Ile Asn Cys Thr Trp			
138	355	360	365	
139	Asn Ile Lys Val Pro Asn Asn Arg Asn Val Lys Val Arg Phe Lys Leu			
140	370	375	380	
141	Phe Tyr Leu Val Asp Pro Asn Val Pro Val Gly Ser Cys Thr Lys Asp			
142	385	390	395	400
143	Tyr Val Glu Ile Asn Gly Glu Lys Tyr Cys Gly Glu Arg Ser Gln Phe			
144	405	410	415	
145	Val Val Ser Ser Asn Ser Lys Ile Thr Val His Phe His Ser Asp			
146	420	425	430	
147	His Ser Tyr Thr Asp Thr Gly Phe Leu Ala Glu Tyr Leu Ser Tyr Asp			
148	435	440	445	
149	Ser Asn Asp Pro Cys Pro Gly Met Phe Met Cys Lys Thr Gly Arg Cys			
150	450	455	460	
151	Ile Arg Lys Glu Leu Arg Cys Asp Gly Trp Ala Asp Cys Pro Asp Tyr			
152	465	470	475	480
153	Ser Asp Glu Arg Tyr Cys Arg Cys Asn Ala Thr His Gln Phe Thr Cys			
154	485	490	495	
155	Lys Asn Gln Phe Cys Lys Pro Leu Phe Trp Val Cys Asp Ser Val Asn			
156	500	505	510	
157	Asp Cys Gly Asp Gly Ser Asp Glu Glu Gly Cys Ser Cys Pro Ala Gly			
158	515	520	525	
159	Ser Phe Lys Cys Ser Asn Gly Lys Cys Leu Pro Gln Ser Gln Lys Cys			
160	530	535	540	

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/900,751

DATE: 10/29/2001  
TIME: 17:58:04

Input Set : A:\PTO.AMC.txt  
Output Set: N:\CRF3\10292001\I900751.raw

161 Asn Gly Lys Asp Asn Cys Gly Asp Gly Ser Asp Glu Ala Ser Cys Asp  
 162 545 550 555 560  
 163 Ser Val Asn Val Val Ser Cys Thr Lys Tyr Thr Tyr Arg Cys Gln Asn  
 164 565 570 575  
 165 Gly Leu Cys Leu Ser Lys Gly Asn Pro Glu Cys Asp Gly Lys Thr Asp  
 166 580 585 590  
 167 Cys Ser Asp Gly Ser Asp Glu Lys Asn Cys Asp Cys Gly Leu Arg Ser  
 168 595 600 605  
 169 Phe Thr Lys Gln Ala Arg Val Val Gly Gly Thr Asn Ala Asp Glu Gly  
 170 610 615 620  
 171 Glu Trp Pro Trp Gln Val Ser Leu His Ala Leu Gly Gln Gly His Leu  
 172 625 630 635 640  
 173 Cys Gly Ala Ser Leu Ile Ser Pro Asp Trp Leu Val Ser Ala Ala His  
 174 645 650 655  
 175 Cys Phe Gln Asp Asp Lys Asn Phe Lys Tyr Ser Asp Tyr Thr Met Trp  
 176 660 665 670  
 177 Thr Ala Phe Leu Gly Leu Leu Asp Gln Ser Lys Arg Ser Ala Ser Gly  
 178 675 680 685  
 179 Val Gln Glu Leu Lys Leu Lys Arg Ile Ile Thr His Pro Ser Phe Asn  
 180 690 695 700  
 181 Asp Phe Thr Phe Asp Tyr Asp Ile Ala Leu Leu Glu Leu Glu Lys Ser  
 182 705 710 715 720  
 183 Val Glu Tyr Ser Thr Val Val Arg Pro Ile Cys Leu Pro Asp Ala Thr  
 184 725 730 735  
 185 His Val Phe Pro Ala Gly Lys Ala Ile Trp Val Thr Gly Trp Gly His  
 186 740 745 750  
 187 Thr Lys Glu Gly Gly Thr Gly Ala Leu Ile Leu Gln Lys Gly Glu Ile  
 188 755 760 765  
 189 Arg Val Ile Asn Gln Thr Thr Cys Glu Asp Leu Met Pro Gln Gln Ile  
 190 770 775 780  
 191 Thr Pro Arg Met Met Cys Val Gly Phe Leu Ser Gly Gly Val Asp Ser  
 192 785 790 795 800  
 193 Cys Gln Gly Asp Ser Gly Gly Pro Leu Ser Ser Ala Glu Lys Asp Gly  
 194 805 810 815  
 195 Arg Met Phe Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
 196 820 825 830  
 197 Arg Asn Lys Pro Gly Val Tyr Thr Arg Leu Pro Val Val Arg Asp Trp  
 198 835 840 845  
 199 Ile Lys Glu His Thr Gly Val  
 200 850 855  
 203 <210> SEQ ID NO: 3  
 204 <211> LENGTH: 200  
 205 <212> TYPE: DNA  
 206 <213> ORGANISM: Artificial Sequence  
 208 <220> FEATURE:  
 209 <223> OTHER INFORMATION: Targeting vector  
 211 <400> SEQUENCE: 3  
 212 ttccccattt agactggctt accccggaag ctgcctgcct cagtctcccg cttcctgtct 60  
 213 ccccaaggtac cggagcgctg atcctgcaga agggtgagat ccgtgtcatc aaccagacca 120

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/900,751

DATE: 10/29/2001  
TIME: 17:58:04

Input Set : A:\PTO.AMC.txt  
Output Set: N:\CRF3\10292001\I900751.raw

214 cctgtgagga cctcatgccg cagcagatca ccccacgaat gatgtgtgtg ggttcctca 180  
215 gtgggggtgt ggactcctgc 200  
217 <210> SEQ ID NO: 4  
218 <211> LENGTH: 200  
219 <212> TYPE: DNA  
220 <213> ORGANISM: Artificial Sequence  
222 <220> FEATURE:  
223 <223> OTHER INFORMATION: Targeting vector  
225 <400> SEQUENCE: 4  
226 atgggcgaat gttccaggct ggtgtggtgg gctggggta aggctgcgt cagaggaaca 60  
227 agccaggcgt gtacacaagg ctccctgtag ttcggactg gatcaaagag cacactgggg 120  
228 tatagcagca tggacagaca gcccaccaca aacacccaca gggatgcccc acatgcacac 180  
229 ctggatacag gagaggaca 200

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/09/900,751

DATE: 10/29/2001

TIME: 17:58:05

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF3\10292001\I900751.raw